

Application No.: 09/868978

Docket No.: 08577-00033-US

AMENDMENTS TO THE CLAIMS

1. (previously presented) A method for producing a polyelectrolyte membrane, comprising the step of:

immersing a basic polymer in a strong acid having a concentration sufficient to impregnate the basic polymer with six or more strong acid molecules per polymer repeating unit of the basic polymer at a temperature of not less than 30°C for a period of 5 h or less wherein the strong acid has a concentration of not less than 80% by weight and wherein the membrane is non-porous.
2. (original) The method according to claim 1, wherein the immersion time is 1 hour or less.
- 3-7 (cancelled)
8. (previously presented) The method according to claim 1, wherein the strong acid is phosphoric acid.
9. (previously presented) The method according to claim 2, wherein the strong acid is phosphoric acid.
10. (previously presented) The method according to claim 1, wherein the strong acid is sulfuric acid.
11. (previously presented) The method according to claim 2, wherein the strong acid is sulfuric acid.
- 12-13 (cancelled)

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14. (previously presented) The method according to claim 1, wherein the basic polymer is selected from the group consisting of polybenzimidazole, polypyridine, polypyrimidine, polyimidazole, polybenzthiazole, polybenzoxazole, polyoxadiazole, polyquinoline, polyquinoxaline, polythiadiazole, polytetrazapyrene, polyoxazole, polythiazole, polyvinylpyridine, polyvinylimidazole, and polybenzimidazole.
15. (previously presented) The method according to claim 2, wherein the basic polymer is selected from the group consisting of polybenzimidazole, polypyridine, polypyrimidine, polyimidazole, polybenzthiazole, polybenzoxazole, polyoxadiazole, polyquinoline, polyquinoxaline, polythiadiazole, polytetrazapyrene, polyoxazole, polythiazole, polyvinylpyridine, polyvinylimidazole, and polybenzimidazole.
16. (previously presented) The method as claimed in claim 15, wherein the temperature is 35°C or above and the immersion is 1 hour or less.
17. (previously presented) The process as claimed in claim 1 claim 11, wherein said temperature is 50°C or above and the immersion time is 30 minutes or less.
18. (previously presented) The process as claimed in claim 2, wherein said temperature is 50°C or above and the immersion time is 30 minutes or less.
19. (previously presented) The method according to claim 17, wherein said temperature is from 50°C to 200°C.
20. (previously presented) A fuel cell comprising a plurality of cells, wherein the cell is provided with a polyelectrolyte membrane produced by the method according to claim 1, and with a pair of electrodes sandwiching the polyelectrolyte membrane.

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21. (Previously presented) The process as claimed in claim 15, wherein said temperature is 50°C or above and the immersion time is 30 minutes or less and the strong acid is phosphoric acid or sulfuric acid.
22. (Previously presented) The method according to claim 1, wherein the strong acid is phosphoric acid having a concentration of not less than 90% by weight.
23. (Previously presented) The method according to claim 1, wherein the strong acid is phosphoric acid having a concentration of not less than 95% by weight.